

WHAT IS CLAIMED IS:

1. A method of manufacturing a nitride semiconductor light emitting device comprising the steps of:

5 a) preparing a substrate for use in growth of nitride semiconductors;

b) growing a nitride semiconductor crystal film on the substrate, the film having a composition represented as $\text{Al}_x\text{In}_y\text{Ga}_{(1-x-y)}\text{N}$ ($0 \leq x \leq 1$, $0 \leq y \leq 1$, $0 \leq x+y \leq 1$);

10 c) performing a surface treatment process on the nitride semiconductor crystal film by making use of hydrogen gas or mixed gases containing hydrogen, in order to remove an oxide film formed on the nitride semiconductor crystal film; and

15 d) successively forming a first conductive nitride semiconductor layer, an active layer, and a second conductive nitride semiconductor layer on the nitride semiconductor crystal film.

20 2. The method as set forth in claim 1, wherein the nitride semiconductor crystal film has the same composition as that of the first conductive nitride semiconductor layer formed thereon.

3. The method as set forth in claim 1, wherein the

nitride semiconductor crystal film is a gallium nitride (GaN) film.

4. The method as set forth in claim 1, wherein the nitride semiconductor crystal film has a thickness of 1 to 10 micrometers.

5. The method as set forth in claim 1, wherein the step b) is performed by an HVPE (Hydride Vapor Phase Epitaxy) method.

6. The method as set forth in claim 5, further comprising the nitridation process step a') of the substrate, before performing the step b).

7. The method as set forth in claim 1, wherein the step c) is performed at a temperature not exceeding 800°C by making use of hydrogen gas or mixed gases containing hydrogen.

8. The method as set forth in claim 1, further comprising the step c') of performing a heat treatment process on the nitride semiconductor crystal film, after completing the step c),

wherein the step c') is performed at a temperature of

100°C to 1500 °C under the environment of gases including at least one selected from among a group consisting of Nitrogen, Hydrogen, and Ammonia.

5 9. The method as set forth in claim 1, wherein the step d) is performed by an MOCVD (Metal Organic Chemical Vapor Deposition) method.

10 10. The method as set forth in claim 1, wherein the substrate for use in growth of nitride semiconductors is a sapphire substrate or SiC substrate.